

**United States Patent** [19]

Nakashiba et al.

[11] Patent Number: **5,762,539**[45] Date of Patent: **Jun. 9, 1998**[54] **APPARATUS FOR AND METHOD FOR  
POLISHING WORKPIECE**401216768 8/1989 Japan ..... 451/288  
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6-333891 12/1994 Japan .[75] Inventors: **Masamichi Nakashiba, Mitaka; Norio  
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Japan**[73] Assignee: **Ebara Corporation, Tokyo, Japan**[21] Appl. No.: **887,463**[22] Filed: **Feb. 27, 1997**[51] Int. Cl.<sup>6</sup> ..... **B24B 5/00**[52] U.S. Cl. .... **451/41; 451/5; 451/285;  
451/286; 451/287; 451/288; 451/289; 451/388**[58] Field of Search ..... **451/41, 285-289,  
451/388, 53, 5**[56] **References Cited****U.S. PATENT DOCUMENTS**4,373,991 2/1983 Banks .  
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**OTHER PUBLICATIONS**U.S. Pat. application Ser. No. 08/524,824, filed Sep. 7, 1995,  
Kimura et al., entitled "Method and Apparatus for Polishing  
Workpiece".

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[57] **ABSTRACT**

A polishing apparatus for polishing a workpiece such as a semiconductor wafer has a turntable with a polishing surface, and a top ring for holding a workpiece and pressing the workpiece against the polishing surface under a first pressing. The polishing apparatus has a pressurized fluid source for supplying pressurized fluid, and a plurality of openings provided in the holding surface of the top ring for ejecting the pressurized fluid supplied from the pressurized fluid source. A plurality of areas each having the openings are defined on the holding surface so that the pressurized fluid is selectively ejectable from the openings in the respective areas.

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**11 Claims, 9 Drawing Sheets**